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47. SOME RARE, ENDANGERED AND THREATENED PLANT SPECIES FROM RATNAGIRI DISTRICT, MAHARASHTRA

While going through the Red Data Book of Indian Plants (RDBIP) vol. I, edited by M.P. Nayar and A.R.K. Sastry (1987), we noticed that ten species of flowering plants which have been collected by us from Ratnagiri district are cited in the book.

The present communication is to supplement the data given in the book about these species. These data were collected by us during various field trips in Ratnagiri district. For each plant, the name of the species is followed by the family name, the page number of the species in the RDBIP vol. I and, in quotation marks, the Category used to indicate the degree of threat in the RDBIP. Specimen numbers of our collections are given. All specimens are at Blatter Herbarium, St. Xavier's College, Bombay.

1. **Aponogeton satarensis** Sundara. et al. Aponogetonaceae 41.

"Vulnerable". The species had so far been reported only from the Mavashi plateau in Satara district, Maharashtra. Attempts to find it on the Panchagani plateau were not successful. We have collected the species from the plateau of Gothane village, Sangameshwar taluka, on the crest (alt. 1,000 m) of the Western Ghats. The plants are found only in a small area of the plateau, where a few cms of water accumulates during the monsoon. Live plants continued to flower in Bombay but the tubers did not grow the next year. Since the species is difficult to cultivate, the best conservation measure would be to protect its habitat. The immediate danger to the species at Gothane may be a proposed dam which may inundate the site. Mistry 1006.

2. **Cryptocoryne cognatoides** Blatt. & McC. Araceae 43.

"Vulnerable". The plant has been found once in the same locality as *Aponogeton satarensis* but it grows in marshy soil on edges of ponds and streams. Mistry 1674.

3. **Ceropegia huberi** Ansari Asclepiadacea 58.

"Vulnerable". Collected only from the type locality at the top of Amba Ghat on grassy road embankments which are prone to landslides. Mistry 1266.

4. **Ceropegia oculata** Hook.f. Asclepiadaceae 62.

"Rare". Collected once from the hill—top at Mirya near Ratnagiri, a botanically interesting locality having a reputation for medicinal plants. Mistry 1156.

5. **Ceropegia sahyadrica** Ansari & Kulkarni 69.

"Rare". It is a frequent plant in August—September in the same locality as *Aponogeton satarensis*, but it is more abundant towards the Western edge of the plateau where the soil layer is thicker. Mistry 1191.

All the above species of *Ceropegia* have edible tubers, which nourish both man and animals; this is a major threat to their survival in the wild. Perhaps cultivation is the best conservation measure for the *Ceropegia* species of the District.

6. **Dipcadi concanense** (Dalz.) Baker Liliaceae 175.

"Possibly extinct in the wild; known only from two gatherings; not seen since 1861, though the region has been repeatedly exlored". The species has now been found after 123 years, growing in a fenced, fallow plot of rocky land in Ratnagiri city. The plant is noticeable only when flowering, otherwise it is inconspicuous among grasses. Unless quick measures are taken to protect the samll plot from building activities it is likely to be lost in the near future. Cultivation may be the best conservation measure. Flowers and fruits in August—Mistry 1068.

7. **Iphigenia magnifica** Ansari & Rolla Rao. Liliaceae 183

"Vulnerable". Collected from the borders of rice fields at Phurus on the Khed—Dapoli road and at Mirya near Ratnagiri. Flowers and fruits in August. Mistry 196 & 1155.

8. **Abutilon ranadei** Woodr. & Stapf Malvaceae 198

"Endangered or Presumed Extinct. First described in 1894, next reported in 1901 as a very rare plant; no report since then." This is the first report in 85 years. A single plant was found on forested slopes at the type locality —

Amba Ghat. The species is in great danger of extinction, as is the case of *Ceropegia huberi* in the same area. The habitat is on the verge of destruction, being on the major highway between the cities of Kolhapur and Ratnagiri, with the forest unprotected. Almeida 1375.

9. **Bhidea burnsiana** BorPoaceae–290

"Rare". This species is by no means rare in the district if one has an eye for grasses. M.R. Almeida has collected the species daily on several consecutive field—days from Ratnagiri city and its surroundings. It grows on bare laterite flats, along with a less common and probably more threatened associate *Danthonidium gamniei* (Bhide) C.E. Hubbard. In Ratnagiri district, at least, the species is not in immediate danger — it has survived the expansion of the city and was even found growing near the Police Station in the heart of the city.

It may be pointed out here that another, rarer species of *Bhidea* exists (unless it has become extinct in the last 45 years) in India, undescribed since 1941 when Bor noticed it with *Danthonidium gamniei* (Bhide) C.E. Hubbard specimens sent to Kew from Karnataka by C. McCann, (see Kew Bull. 1948:44. 1949).

Almeida 448, 698A, 914; Mistry 466B.

10. **Dimeria woodrowii** Stapf Poaceae298.

"Rare". An occasional species on bare laterite flats especially near the sea as at Mirya, Mirjole and Shirgaon near Ratnagiri city. Like *Bhidea brunsiana* the species is not in immediate danger since it survives on land which is already so degraded that nothing except short grasses and herbs can grow on it Almeida 470A, 588B & 916.

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M.K. MISTRY
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48. *CYRTOMIUM HOOKERIANUM* (PRESL) C. CHR. (ASPIDIACEAE) — A NEW RECORD FOR WESTERN HIMALAYAS

During an extensive plant collection in Kumaun region of Western Himalayas, we collected plants of *Cyntomium hookerianum* (Presl) C. Chr. from Gwaldam. This species has not been reported from Western Himalaya being known so far from nepal, Bhutan, Khasia hills, Meghalaya, Nagaland, China, Tonkin, Japan, Taiwan and Australia. The present collection extends its distributional ranges further west to Kumaun Himalaya, and is an important addition to the fern flora of North—Western Himalaya. The voucher specimens are lodged in the Herbarium of Department of Botany, Kumaun University Campus, Almora.

Cyrtomium hookerianum (Presl) C. Chr., Ind. Fil. Suppl. 1, 101, 1913; Jamir & Rao, Ferns of Nagaland, 334, 1988; Dixit, Cens. Indian Pterido. Ser. 4, 1984.*Lastrea hookeriana* Presl, Tent. Pterid., 77, 1836. *Aspedium caducum* Wall. ex Hook. et Grev., Icon. Fil. t.171, 1829 (non HBK, 1815).*Cyrtomium caducum* (Wall. ex Hook. et Grev.) Moore, Ind. Fil. 276, 1861; Bedd., Handb. Ferns Brit. India, 211, 1883. *Phanerophlebia hookeriana* (Presl) Copel., Gen. Fil., 3, 1947.

Rhizome stout, short, erect with spreading wiry roots. Stipe upto 30 cm long, stout, covered with dark brown, lanceolate, acuminate scales (upto 30 mm at base and 6ã mm at middle and onwards). Lamina 35–45 x 15 x 2 cm, simple pinnate, pinnatifid at apex; lateral pinnae upto 27 pairs, slightly oblique to the rachis, shortly petiolate; largest pinnae upto 15 x 1.5–2.5 cm, petiolate, falcate, cuneate at the base, acuminate at the apex, margin toothed, texture coriaceous, glabrous above and scaly beneath (scales upto 1.5 mm long); rachis and costules sparsely covered with small brown scales; veins free, much forked. Sori globose, scattered; indusium peltate with slightly lobed margin; sporangia stalked; spores not matured.

Ecology: Rare, growing along the banks of perennial streams in dense fofests at an altitude about 2000 m.

Specimens examined: Kumaun Himalaya, District Almora, Gwaldam (2000 m), P.C. Pande, 17057.

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